

# Appendix I

## Tissues Required for Analysis

### 2004 FSIS National Residue Program

Table A-I, *Tissues Required for Analysis*, lists the tissue, the amount required for analysis, and the laboratory to which the tissue is sent.

**Table A-I**

| <b>Residue</b>   | <b>Tissue Analyzed</b> | <b>Quantity (lb)</b> | <b>Lab</b> |
|--|------------------------|----------------------|------------|
| Antibiotics  | Kidney, liver, muscle  | 1                    | MWL        |
| Arsenicals   | Liver, muscle          | 1                    | EL         |
| Avermectins  | Liver, muscle          | 1                    | EL         |
| Beta agonists (e.g. clenbuterol)                                     | Eyeball                | 1                    | WL         |
| Chloramphenicol  | Muscle                 | 1                    | EL         |
| Chlorinated hydrocarbons/chlorinated organophosphates/Phenylbutazone | Fat                    | 1                    | WL         |
| Flunixin   | Liver, muscle          | 1                    | MWL        |
| Lead and Cadmium   | Kidney, liver, muscle  | 1                    | EL         |
| Melengesterol acetate (MGA)  | Fat                    | 1                    | WL         |
| Phenylbutazone by Immunoassay  | Kidney                 | 1                    | WL         |
| Sulfonamides   | Liver, muscle          | 1                    | MWL, EL    |

**Key:**

EL = FSIS Eastern Laboratory, Athens, GA

MWL = FSIS Midwestern Laboratory, St. Louis, Mo

WL = FSIS Western Laboratory, Alameda, Ca

## **Appendix II**

# **U.S. Residue Limits for Veterinary Drugs and Unavoidable Contaminates in Meat, Poultry, and Egg Products**

This appendix provides information on the residue limits (tolerances) for animal drugs and unavoidable contaminants in meat, poultry, and egg products. The Food Safety and Inspection Service in its regulatory programs apply tolerances, which are set by the Food and Drug Administration (FDA). The official source of these tolerances is Title 21 of the Code of Federal Regulations (CFR): those for animal drugs are found in CFR, Title 21, Part 556; and those for unavoidable contaminants are found in CFR, Title 21 CFR, Part 109, Section 109.30. This Appendix supplies the relevant citation for each tolerance and action level.

The tolerances and action levels for the various tissues in meat, poultry and egg products are listed alphabetically by compound in Table A II, *Residue Limits for Veterinary Drugs, and Unavoidable Contaminants*. These tolerances may be for the parent compound (the original chemical form of the compound given to the animal), or for the compound's metabolites (the chemical forms into which the compound is metabolized by the animal), or for a combination of parent plus metabolites. All tolerances are provided in units of parts per million (ppm) unless otherwise noted. Please note that this appendix has been generated for the convenience of the reader, and if any discrepancies arise between this appendix and the CFR, the values from the latter source should be used.

**Table A II**  
**Residue Limits for Veterinary Drugs, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                      | Species   | Fat (ppm) | Meat (ppm)                  | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)     | Kidney (ppm)              | Edible Tissue (ppm)                     | Reference     |
|-------------------------------|---|-----------|-----------------------------|------------------------------------|-----------------|---------------------------|---|---------------|
| 2-Acetylamino-5-nitrothiazole | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           |                             |                                    |                 |                           | 0.1 <sup>2</sup>                        | 21 CFR 556.20 |
| Aklomide                      | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 3         | 4.5                         |                                    | 4.5             |                           |   | 21 CFR 556.30 |
| Albendazole <sup>3</sup>      | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           | 0.05<br><br>0.05            |                                    | 0.2<br><br>0.25 |                           |   | 21 CFR 556.34 |
| Altrenogest                   | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           | 0.001                       |                                    | 0.004           |                           |   |               |
| Amoxicillin                   | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           |                             |                                    |                 |                           | 0.01                                    | 21 CFR 556.38 |
| Ampicillin                    | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           |                             |                                    |                 |                           | 0.01<br>0.01                            | 21 CFR 556.40 |
| Amprolium                     | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 2.0       | 0.5<br><br>0.5 <sup>4</sup> |                                    | 0.5<br><br>1    | 0.5<br><br>1 <sup>5</sup> | <br><br>4 <sup>6</sup> , 8 <sup>7</sup> | 21 CFR 556.50 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                | Species   | Fat (ppm) | Meat (ppm) | Meat <sup>1</sup> by-product (ppm) | Liver (ppm) | Kidney (ppm) | Edible Tissue (ppm)                   | Reference      |
|-------------------------|---|-----------|------------|------------------------------------|-------------|--------------|---------------------------------------|----------------|
| Apramycin               | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                           |           |            |                                    |             | 0.1          |                                       | 21 CFR 556.52  |
| Arsenic                 | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>5</sup><br>Sheep<br>Eggs              | 0.5       | 0.5<br>0.5 | 0.5<br>2                           | 2           | 2            |                                       | 21 CFR 556.60  |
| Bacitracin              | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                           |           |            |                                    |             |              | 0.5<br>0.5<br>0.5 <sup>8</sup><br>0.5 | 21 CFR 556.70  |
| Bambermycin             | Cattle <sup>9</sup><br>Goats<br>Hogs<br>Horses<br>Poultry <sup>9</sup><br>Sheep<br>Eggs |           |            |                                    |             |              |                                       |                |
| Buquinolate             | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                           | 0.4       | 0.1        |                                    | 0.4         | 0.4          | 0.5,.2 <sup>7</sup>                   | 21 CFR 556.90  |
| Carbadox                | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                           |           |            |                                    | 0.03        |              |                                       | 21 CFR 556.100 |
| Ceftiofur <sup>10</sup> | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                           |           | 166        |                                    | 2           | 8            |                                       | 21 CFR 556.113 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                             | Species  | Fat (ppm) | Meat (ppm) | Meat <sup>1</sup> by-product (ppm) | Liver (ppm) | Kidney (ppm) | Edible Tissue (ppm) | Reference         |
|--------------------------------------|--|-----------|------------|------------------------------------|-------------|--------------|---------------------|-------------------|
| Cephapirin                           | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs              |           |            |                                    |             |              | 0.1                 | 21 CFR<br>556.115 |
| Chlorhexidine                        | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs              |           |            |                                    |             |              | 0                   | 21 CFR<br>556.120 |
| Chlortetra-<br>cycline <sup>11</sup> | Cattle   | 12        | 2          |                                    | 6           | 12           |                     | 21 CFR<br>556.150 |
|                                      | Goats  |           |            |                                    |             |              |                     |                   |
|                                      | Hogs   | 12        | 2          |                                    | 6           | 12           |                     |                   |
|                                      | Horses   |           |            |                                    |             |              |                     |                   |
|                                      | Poultry <sup>5</sup>   | 12        | 2          |                                    | 6           | 12           |                     |                   |
|                                      | Sheep  | 12        | 2          |                                    | 6           | 12           |                     |                   |
|                                      | Eggs   |           |            |                                    |             |              | 0.4                 |                   |
| Clopidol                             | Cattle   |           | 0.2        |                                    | 1.5         | 3            |                     | 21 CFR<br>556.160 |
|                                      | Goats  |           | 0.2        |                                    | 1.5         | 3            |                     |                   |
|                                      | Hogs   |           |            |                                    |             |              | 0.2                 |                   |
|                                      | Horses   |           |            |                                    |             |              |                     |                   |
|                                      | Poultry  |           | 5          |                                    | 15          | 15           |                     |                   |
|                                      | Sheep  |           | 0.2        |                                    | 1.5         | 3            |                     |                   |
|                                      | Eggs   |           |            |                                    |             |              |                     |                   |
| Clorsulon                            | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs              |           | 0.1        |                                    | 1           |              |                     | 21 CFR<br>556.163 |
| Cloxacillin                          | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs              |           |            |                                    |             |              | 0.01                | 21 CFR<br>556.165 |
| Colistimethate                       | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>9</sup><br>Sheep<br>Eggs |           |            |                                    |             |              |                     | 21 CFR<br>556.167 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound              | Species   | Fat (ppm)       | Meat (ppm)         | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)               | Kidney (ppm) | Edible Tissue (ppm) | Reference         |
|-----------------------|---|-----------------|--------------------|------------------------------------|---------------------------|--------------|---------------------|-------------------|
| Danofloxacin          | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                 | 0.2                |                                    | 0.2                       |              |                     |                   |
| Decoquinate           | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>12</sup><br>Sheep<br>Eggs | 2<br>2<br><br>2 | 1<br>1<br>1        | 2<br>1<br>2                        | 2<br>1<br>2               | 2<br>2<br>2  |                     | 21 CFR<br>556.170 |
| Dichlorvos            | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                 |                    |                                    |                           |              | 0.1                 | 21 CFR<br>556.180 |
| Diclazuril            | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>5</sup><br>Sheep<br>Eggs  | 1 <sup>16</sup> | 0.5                |                                    | 3                         |              |                     | 21 CFR<br>556.175 |
| Dihydro-streptomycin  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               | 0.5<br>0.5      | 0.5<br>0.5         | 0.5<br>0.5                         | 0.5<br>0.5                | 2.0<br>2.0   |                     | 21 CFR<br>556.200 |
| 3,5-Dinitro-benzamide | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                 |                    |                                    |                           |              | 0                   | 21 CFR<br>556.220 |
| Doramectin            | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                 | 0.03 <sup>29</sup> |                                    | 0.1 <sup>29</sup><br>0.16 |              |                     | 21 CFR<br>556.225 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound  | Species   | Fat (ppm)                                     | Meat (ppm)                                    | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)                                   | Kidney (ppm)                                  | Edible Tissue (ppm)          | Reference         |
|---|---|---|---|------------------------------------|---|---|------------------------------|-------------------|
| Enrofloxacin  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |   | 0.3   |                                    | 0.1 <sup>13</sup>                             |   |                              | 21 CFR<br>556.228 |
| Eprinomectin  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |   | 0.1   |                                    | 4.8   |   |                              | 21 CFR<br>556.227 |
| Erythromycin  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |   |   |                                    |   |   | 0.1<br>0.1<br>0.125<br>0.025 | 21 CFR<br>556.230 |
| Estradiol benzoate and related esters <sup>14</sup> | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 480 <sup>14,28</sup><br><br>600 <sup>14</sup> | 120 <sup>14,28</sup><br><br>120 <sup>14</sup> |                                    | 240 <sup>14,28</sup><br><br>600 <sup>14</sup> | 360 <sup>14,28</sup><br><br>600 <sup>14</sup> |                              | 21 CFR<br>556.240 |
| Ethopabate  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |   | 0.5   |                                    | 1.5   | 1.5   |                              | 21 CFR<br>556.260 |
| Ethoxyquin  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 5<br>5<br>5<br>5<br>3<br>5                    | 0.5<br>0.5<br>0.5<br>0.5<br>0.5<br>0.5        |                                    | 3   |   | 0.5                          | 21 CFR<br>172.140 |
| Famphur   | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 0.1   | 0.1   | 0.1                                |   |   |                              | 21 CFR<br>556.273 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                  | Species   | Fat (ppm) | Meat (ppm)               | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)              | Kidney (ppm) | Edible Tissue (ppm) | Reference         |
|---------------------------|---|-----------|--------------------------|------------------------------------|--------------------------|--------------|---------------------|-------------------|
| Fenbendazole              | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           | 0.4<br>0.4<br>2<br><br>2 |                                    | 0.8<br>0.8<br>6<br><br>6 |              |                     | 21 CFR<br>556.275 |
| Fenprostalene             | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |                          |                                    |                          |              |                     | 21 CFR<br>556.277 |
| Florfenicol               | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           | 0.3<br><br>0.2           |                                    | 3.7<br><br>2.5           |              |                     | 21 CFR<br>556.283 |
| Flunixin meglumine        | Cattle <sup>29</sup><br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           | 0.025                    |                                    | 0.125                    |              |                     | 21 CFR<br>556.286 |
| Furazolidone              | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |                          |                                    |                          |              | 0                   | 21 CFR<br>556.290 |
| Gentamicin sulfate        | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               | 0.4       | 0.1                      |                                    | 0.3                      | 0.4          | 0.1                 | 21 CFR<br>556.300 |
| Halofuginone hydrobromide | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |                          |                                    | 0.16,0.13                |              |                     | 21 CFR<br>556.308 |



**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                 | Species  | Fat (ppm)         | Meat (ppm)   | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)  | Kidney (ppm) | Edible Tissue (ppm) | Reference         |
|--------------------------|--|-------------------|--------------|------------------------------------|--|--------------|---------------------|-------------------|
| Haloxon                  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                        |                   |              |                                    |  |              | 0.1                 | 21 CFR<br>556.310 |
| Hygromycin B             | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                        |                   |              |                                    |  |              | 0<br>0<br>0         | 21 CFR<br>556.330 |
| Ivermectin               | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                        |                   | 0.01<br>0.02 |                                    | 0.01,<br>0.015 <sup>15</sup><br><br>0.02<br><br>0.03 |              |                     | 21 CFR<br>556.344 |
| Lasalocid                | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs <sup>9</sup><br>Rabbit | 0.2 <sup>16</sup> |              |                                    | 0.7<br><br>0.4<br><br>0.7                            |              |                     | 21 CFR<br>556.347 |
| Levamisole hydrochloride | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                        |                   |              |                                    |  |              | 0.1<br>0.1<br>0.1   | 21 CFR<br>556.350 |
| Lincomycin               | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                        |                   | 0.1          |                                    | 0.6  |              |                     | 21 CFR<br>556.360 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                        | Species   | Fat (ppm) | Meat (ppm) | Meat <sup>1</sup> by-product (ppm) | Liver (ppm) | Kidney (ppm) | Edible Tissue (ppm) | Reference         |
|---------------------------------|---|-----------|------------|------------------------------------|-------------|--------------|---------------------|-------------------|
| Maduramicin ammonium            | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               | 0.38      |            |                                    |             |              |                     | 21 CFR<br>556.375 |
| Melengestrol acetate            | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               | 0.025     |            |                                    |             |              |                     | 21 CFR<br>556.380 |
| Metoserpate hydrochloride       | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |            |                                    |             |              | 0.02 <sup>5</sup>   | 21 CFR<br>556.410 |
| Monensin                        | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>17</sup><br>Sheep<br>Eggs |           |            |                                    |             |              | 0.05<br>0.05        | 21 CFR<br>556.420 |
| Morantel tartrate <sup>18</sup> | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |            |                                    | 0.7<br>0.7  |              |                     | 21 CFR<br>556.425 |
| Moxidectin                      | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           | 0.05       |                                    | 0.2         |              |                     | 21 CFR<br>556.426 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound     | Species  | Fat (ppm)                                     | Meat (ppm)                      | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)                     | Kidney (ppm)                    | Edible Tissue (ppm)       | Reference         |
|--------------|--|---|---------------------------------|------------------------------------|---------------------------------|---------------------------------|---------------------------|-------------------|
| Narasin      | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                            | 0.48  |                                 |                                    |                                 |                                 |                           | 21 CFR<br>556.428 |
| Neomycin     | Cattle <sup>27</sup><br>Goats<br>Hogs<br>Horses<br>Poultry <sup>2</sup><br>Sheep<br>Eggs | 7.2<br>7.2<br>7.2<br>7.2 <sup>16</sup><br>7.2 | 1.2<br>1.2<br>1.2<br>1.2<br>1.2 |                                    | 3.6<br>3.6<br>3.6<br>3.6<br>3.6 | 7.2<br>7.2<br>7.2<br>7.2<br>7.2 |                           | 21 CFR<br>556.430 |
| Nequinatate  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                            |   |                                 |                                    |                                 |                                 | 0.1 <sup>5</sup>          | 21 CFR<br>556.440 |
| Nicarbazin   | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                            | 4 <sup>19</sup>                               | 4                               |                                    | 4                               | 4                               |                           | 21 CFR<br>556.445 |
| Novobiocin   | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                            |   |                                 |                                    |                                 |                                 | 1<br><br>1                | 21 CFR<br>556.460 |
| Nystatin     | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                            | 0   |                                 |                                    |                                 |                                 | 0<br>0                    | 21 CFR<br>556.470 |
| Oleandomycin | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                            |   |                                 |                                    |                                 |                                 | 0.15<br>0.15 <sup>6</sup> | 21 CFR<br>556.480 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound            | Species   | Fat (ppm) | Meat (ppm) | Meat <sup>1</sup> by-product (ppm) | Liver (ppm) | Kidney (ppm) | Edible Tissue (ppm)               | Reference  |
|---------------------|---|-----------|------------|------------------------------------|-------------|--------------|-----------------------------------|--|
| Ormetoprim          | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |            |                                    |             |              | 0.1                               | 21 CFR 556.490   |
| Oxfendazole         | Cattle <sup>20</sup><br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |           |            |                                    | 0.8         |              |                                   | 21 CFR 556.495   |
| Oxytetracycline     | Cattle  | 12        | 2          |                                    | 6           | 12           |                                   | 21 CFR 556.500   |
|                     | Goats   |           |            |                                    |             |              |                                   |  |
|                     | Hogs  | 12        | 2          |                                    | 6           | 12           |                                   |  |
|                     | Horses  |           |            |                                    |             |              |                                   |  |
|                     | Poultry <sup>5</sup>  | 12        | 2          |                                    | 6           | 12           |                                   |  |
|                     | Sheep   | 12        | 2          |                                    | 6           | 12           |                                   |  |
|                     | Eggs  |           |            |                                    |             |              |                                   |  |
| PBB's               | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |           |            |                                    |             |              |                                   | FDA revoked, effective January 5,1987, all action levels in meat and poultry |
| PCB's <sup>21</sup> | Cattle  | 3         |            |                                    |             |              |                                   | 21 CFR 109.30  |
|                     | Goats   | 3         |            |                                    |             |              |                                   |  |
|                     | Hogs  | 3         |            |                                    |             |              |                                   |  |
|                     | Horses  | 3         |            |                                    |             |              |                                   |  |
|                     | Poultry   | 3         |            |                                    |             |              |                                   |  |
|                     | Sheep   | 3         |            |                                    |             |              |                                   |  |
|                     | Eggs  |           |            |                                    |             |              |                                   |  |
| Penicillin          | Cattle  |           |            |                                    |             |              | 0.05                              | 21 CFR 556.510   |
|                     | Goats   |           |            |                                    |             |              | 0                                 |  |
|                     | Hogs  |           |            |                                    |             |              | 0 <sup>22</sup> ,.01 <sup>2</sup> |  |
|                     | Horses  |           |            |                                    |             |              | 0                                 |  |
|                     | Poultry   |           |            |                                    |             |              | 0                                 |  |
|                     | Sheep   |           |            |                                    |             |              | 0                                 |  |
|                     | Eggs  |           |            |                                    |             |              |                                   |  |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                  | Species   | Fat (ppm) | Meat (ppm) | Meat <sup>1</sup> by-product (ppm) | Liver (ppm) | Kidney (ppm) | Edible Tissue (ppm) | Reference      |
|---------------------------|---|-----------|------------|------------------------------------|-------------|--------------|---------------------|----------------|
| Pirlimycin                | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                 | 0.3       |            |                                    | 0.5         |              |                     | 21 CFR 556.515 |
| Progesterone              | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                 | 0.012     | 0.003      |                                    | 0.006       | 0.009        |                     | 21 CFR 556.540 |
|                           |   | 0.015     | 0.003      |                                    | 0.0015      | 0.015        |                     |                |
| Pyrantel tartrate         | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                 |           | 1          |                                    | 10          | 10           |                     | 21 CFR 556.560 |
| Ractopamine hydrochloride | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                 |           | 0.03       |                                    | 0.09        |              |                     | 21 CFR 556.570 |
|                           |   |           | 0.05       |                                    | 0.15        |              |                     |                |
| Robenidine hydrochloride  | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                 | 0.2       |            |                                    |             |              | 0.1 <sup>5</sup>    | 21 CFR 556.580 |
| Sarafloxacin              | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>5, 9</sup><br>Sheep<br>Eggs |           |            |                                    |             |              |                     | 21 CFR 556.594 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                    | Species   | Fat (ppm)         | Meat (ppm)        | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)       | Kidney (ppm) | Edible Tissue (ppm) | Reference      |
|-----------------------------|---|-------------------|-------------------|------------------------------------|-------------------|--------------|---------------------|----------------|
| Spectinomycin               | Cattle <sup>27</sup><br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs |                   | 0.25              |                                    |                   | 4            | 0.1                 | 21 CFR 556.600 |
| Streptomycin                | Cattle <sup>24</sup><br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 0.5<br>0.5<br>0.5 | 0.5<br>0.5<br>0.5 | 0.5<br>0.5<br>0.5                  | 0.5<br>0.5<br>0.5 | 2<br>2<br>2  | 0.5<br>0.5<br>0.5   | 21 CFR 556.610 |
| Sulfabromo-methazine sodium | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                   |                   |                                    |                   |              | 0.1                 | 21 CFR 556.620 |
| Sulfachloro-pyrazine        | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>12</sup><br>Sheep<br>Eggs |                   |                   |                                    |                   |              | 0                   | 21 CFR 556.625 |
| Sulfachlor-pyridazine       | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                   |                   |                                    |                   |              | 0.1<br>0.1          | 21 CFR 556.630 |
| Sulfadi-methoxine           | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                   |                   |                                    |                   |              | 0.1<br>0.1          | 21 CFR 556.640 |
| Sulfaethoxy-pyridazine      | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |                   |                   |                                    |                   |              | 0.1<br>0            | 21 CFR 556.650 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                   | Species   | Fat<br>(ppm) | Meat<br>(ppm) | Meat <sup>1</sup><br>by-<br>product<br>(ppm) | Liver<br>(ppm) | Kidney<br>(ppm) | Edible<br>Tissue<br>(ppm) | Reference         |
|----------------------------|---|--------------|---------------|--|----------------|-----------------|---------------------------|-------------------|
| Sulfamethazine             | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>5</sup><br>Sheep<br>Eggs  |              |               |  |                |                 | 0.1<br><br>0.1<br><br>0.1 | 21 CFR<br>556.670 |
| Sulfanitran                | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>12</sup><br>Sheep<br>Eggs |              |               |  |                |                 | 0                         | 21 CFR<br>556.680 |
| Sulfaquinoxaline           | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>5</sup><br>Sheep<br>Eggs  |              |               |  |                |                 | 0.1<br><br>0.1            | 21 CFR<br>556.685 |
| Sulfathiazole              | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs               |              |               |  |                |                 | 0.1                       | 21 CFR<br>556.690 |
| Sulfomyxin                 | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry <sup>5</sup><br>Sheep<br>Eggs  |              |               |  |                |                 | 0                         | 21 CFR<br>556.700 |
| Testosterone<br>propionate | Cattle <sup>22</sup><br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs | 0.0026       | 0.0006<br>4   |  | 0.0013         | 0.0019          |                           | 21 CFR<br>556.710 |

**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound                   | Species               | Fat (ppm)        | Meat (ppm) | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)       | Kidney (ppm) | Edible Tissue (ppm) | Reference      |
|----------------------------|-----------------------|------------------|------------|------------------------------------|-------------------|--------------|---------------------|----------------|
| Tetracycline <sup>11</sup> | Cattle <sup>23</sup>  | 12               | 2          |                                    | 6                 | 12           |                     | 21 CFR 556.720 |
|                            | Goats                 |                  |            |                                    |                   |              |                     |                |
|                            | Hogs                  | 12               | 2          |                                    | 6                 | 12           |                     |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry <sup>5</sup>  | 12               | 2          |                                    | 6                 | 12           |                     |                |
|                            | Sheep                 | 12               | 2          |                                    | 6                 | 12           |                     |                |
|                            | Eggs                  |                  |            |                                    |                   |              |                     |                |
| Thiabendazole              | Cattle                |                  |            |                                    |                   |              | 0.1                 | 21 CFR 556.730 |
|                            | Goats                 |                  |            |                                    |                   |              | 0.1                 |                |
|                            | Hogs                  |                  |            |                                    |                   |              | 0.1                 |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry <sup>24</sup> |                  |            |                                    |                   |              |                     |                |
|                            | Sheep                 |                  |            |                                    |                   |              | 0.1                 |                |
|                            | Eggs                  |                  |            |                                    |                   |              |                     |                |
| Tiamulin                   | Cattle                |                  |            |                                    | 0.6 <sup>25</sup> |              |                     | 21 CFR 556.738 |
|                            | Goats                 |                  |            |                                    |                   |              |                     |                |
|                            | Hogs                  |                  |            |                                    |                   |              |                     |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry               |                  |            |                                    |                   |              |                     |                |
|                            | Sheep                 |                  |            |                                    |                   |              |                     |                |
|                            | Eggs                  |                  |            |                                    |                   |              |                     |                |
| Tilmicosin                 | Cattle                |                  | 0.1        |                                    | 1.2               |              |                     | 21 CFR 556.735 |
|                            | Goats                 |                  |            |                                    |                   |              |                     |                |
|                            | Hogs                  |                  | 0.1        |                                    | 7.5               |              |                     |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry               |                  |            |                                    |                   |              |                     |                |
|                            | Sheep                 |                  | 0.1        |                                    |                   | 1.2          |                     |                |
|                            | Eggs                  |                  |            |                                    |                   |              |                     |                |
| Trenbolone                 | Cattle <sup>9</sup>   |                  |            |                                    |                   |              |                     | 21 CFR 556.739 |
|                            | Goats                 |                  |            |                                    |                   |              |                     |                |
|                            | Hogs                  |                  |            |                                    |                   |              |                     |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry               |                  |            |                                    |                   |              |                     |                |
|                            | Sheep                 |                  |            |                                    |                   |              |                     |                |
|                            | Eggs                  |                  |            |                                    |                   |              |                     |                |
| Tripelennamine             | Cattle                |                  |            |                                    |                   |              | 0.2                 | 21 CFR 556.741 |
|                            | Goats                 |                  |            |                                    |                   |              |                     |                |
|                            | Hogs                  |                  |            |                                    |                   |              |                     |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry               |                  |            |                                    |                   |              |                     |                |
|                            | Sheep                 |                  |            |                                    |                   |              |                     |                |
|                            | Eggs                  |                  |            |                                    |                   |              |                     |                |
| Tylosin                    | Cattle                | 0.2              | 0.2        |                                    | 0.2               | 0.2          |                     | 21 CFR 556.740 |
|                            | Goats                 |                  |            |                                    |                   |              |                     |                |
|                            | Hogs                  | 0.2              | 0.2        |                                    | 0.2               | 0.2          |                     |                |
|                            | Horses                |                  |            |                                    |                   |              |                     |                |
|                            | Poultry <sup>5</sup>  | 0.2              | 0.2        |                                    | 0.2               | 0.2          |                     |                |
|                            | Sheep                 |                  |            |                                    |                   |              |                     |                |
|                            | Eggs                  | 0.2 <sup>6</sup> |            |                                    |                   |              |                     |                |



**Table A II - Continued**  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

| Compound              | Species   | Fat (ppm)       | Meat (ppm)     | Meat <sup>1</sup> by-product (ppm) | Liver (ppm)                      | Kidney (ppm)    | Edible Tissue (ppm) | Reference      |
|-----------------------|---|-----------------|----------------|------------------------------------|----------------------------------|-----------------|---------------------|----------------|
| Virginiamycin         | Cattle <sup>9</sup><br>Goats<br>Hogs<br>Horses<br>Poultry <sup>9</sup><br>Sheep<br>Eggs | 0.4             | 0.1            |                                    | 0.3                              | 0.4             |                     | 21 CFR 556.750 |
| Zeranol               | Cattle <sup>9</sup><br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs              |                 |                |                                    |                                  |                 | 0                   | 21 CFR 556.760 |
| Zoalene <sup>26</sup> | Cattle<br>Goats<br>Hogs<br>Horses<br>Poultry<br>Sheep<br>Eggs                           | 2 <sup>12</sup> | 3 <sup>5</sup> |                                    | 6 <sup>12</sup> , 3 <sup>2</sup> | 6 <sup>12</sup> |                     | 21 CFR 556.770 |

<sup>1</sup> Unless otherwise indicated meat by product includes liver and kidney

<sup>2</sup> Turkey only

<sup>3</sup> Marker residue: albendazole 2-aminosulfone

<sup>4</sup> Chicken, turkey and pheasants

<sup>5</sup> Chicken and turkey

<sup>6</sup> Whole egg

<sup>7</sup> Egg yolk

<sup>8</sup> Chicken, turkey, pheasants and quails

<sup>9</sup> No tolerance required

<sup>10</sup> Marker residue is desfurioylceftiofur

<sup>11</sup> Tolerances are for the sum of all approved tetracycline residues (i.e., tetracycline, chlortetracycline, and oxytetracycline)

<sup>12</sup> Chicken only

<sup>13</sup> Marker desethylene ciprofloxacin

<sup>14</sup> Tolerance in parts per trillion

<sup>15</sup> American bison and reindeer

<sup>16</sup> Skin with adhering fat

<sup>17</sup> Chicken, turkey, and quail

<sup>18</sup> N-methyl-1,3-propanediamine

<sup>19</sup> Skin

<sup>20</sup> Marker residue is fenbendazole

**Table A II - *Continued***  
**Residue Limits for Veterinary Drugs, Food Additives, and Unavoidable Contaminants**  
**2004 FSIS National Residue Program**

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<sup>21</sup> Action levels

<sup>22</sup> Heifers; no residues are permitted at concentrations above these, which represent the levels naturally present in untreated animals

<sup>23</sup> Calves

<sup>24</sup> Pheasants only

<sup>25</sup> Marker residue is 8-alpha-hydroxymutilin

<sup>26</sup> Tolerances are established for residues of zoalene (3,5-dinitro-o-toluamide) and its metabolite 3-amino-5-nitro-o-toluamide

<sup>27</sup> For bob veal, formula fed veal, and non-formula fed veal there is a zero tolerance

<sup>28</sup> For use in heifers, steers, and calves. Do not use in calves intended for reproduction or calves less than 30 days old. Do not use in calves to be processed for veal. For bob veal, formula fed veal, and non-formula fed veal there is a zero tolerance

<sup>29</sup> For dairy cows, bob veal, formula fed veal and non-formula fed veal the tolerances are zero